**Comparison Sheet**

**Between W5100S and W5100**

**Version 0.0.1**



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**W5100S vs W5100**

W5100S은 W5100 TCP/IP core를 기반으로 개발되었으며, W5100의 대부분의 기능을 그대로 따르면서 많은 기능들이 확장 되었다.

1. Host Interface

|  |  |  |
| --- | --- | --- |
|  | W5100S | W5100 |
| Address Bus | 2 PINs, ADDR[1:0] | 15 PINs, ADDR[14:0] |
| Interface Mode | SPI, W5500 Compatible SPI, Parallel BUS?Indirect? | Direct/Indirect, SPI |

1. Network Interface

|  |  |  |
| --- | --- | --- |
|  | W5100S | W5100 |
| Link LED | LNKn, No Blink (Hold Low) | LINKLED, Blink |
| Activity LED | ACTn | RXLED, TXLED |

<Note> 1. Data의 Receive와 Transmit activity에 대한 정보를 W5100에서는 RXLED, TXLED 두 핀을 사용하여 표시 하였지만, W5100S에서는 ACTn 핀 만을 사용하여 표시 한다. 또한 ACTn 핀은 W5100S의 System Operation Clock에 대한 정보도 표시하니 참고 하기 바란다.

1. Register

W5100S의 Register 용도는 W5100과 거의 동일하다. W5100에 비하여 W5100S에서 변경, 확장, 추가, 제거된 Register는 다음과 같다.

* 1. Change & Expansion

|  |  |  |
| --- | --- | --- |
|  | W5100S | W5100 |
| MR | TCP Sequence 번호 설정 기능 추가, Address Auto-Increment in Indirect Bus I/F 고정, Indirect Bus I/F mode 삭제 | - |
| IR | PPPoE제거후 PPPTERM으로 변경, PPPT 또는 LCPT 수신시 인터럽트 발생함 | PPPoE |
| IMR | PADT/LCPT | PPPoE |
| Sn\_MR | PPPoE 제거 | - |
| Sn\_SR | SOCK\_PPPOE, SOCK\_CLOSING, SOCK\_ARP 제거 | - |

* 1. Addition

|  |  |
| --- | --- |
| INTLEVEL[1:0] | Interrupt Low Level Timer |
| IR2 | Interrupt Register 2, WOL Packet 용 |
| IMR2 | Interrupt Register 2 Mask, WOL Packet 용 |
| MR2 | Mode Register 2 |
| PHAR[5:0] | Destination Hardware Address Register in PPPoE Mode |
| PSIDR[1:0] | Session ID Register in PPPoE Mode |
| PMRUR[1:0] | Maximum Receive Unit Register in PPPoE |
| PHYSR0 | PHY Status Register |
| PHYAR | PHY Address Value Register |
| PHYRR | PHY Register Address Register |
| PHYDIR[1:0] | PHY Data Input Register |
| PHYDOR[1:0] | PHY Data Output Register |
| PHYACR | PHY Action Register |
| PHYDIVR | PHY Division Register |
| PHYCR[1:0] | PHY Control Register |
| SLCR | SOCKET-less Command Register |
| SLRTR [1:0] | SOCKET-less Retransmission Timer-value Register |
| SLRCR | SOCKET-less Retransmission Count-value Register |
| SLPIPR [3:0] | SOCKET-less Peer IP Address Register |
| SLPHAR [5:0] | SOCKET-less Peer Hardware Address Register |
| PINGSEQR [1:0] | PING Sequence-number Register |
| PINGIDR [1:0] | PING ID Register |
| SLIMR | SOCKET-less Interrupt Mask Register |
| SLIR | SOCKET-less Command Interrupt Register |
| CLKLCKR | Clock Lock Register |
| NETLCKR | Network Lock Register |
| PHYLCKR | PHY Lock Register |
| VERR | Chip Version Register |
| TCNTR[1:0] | 100us Tick Counter Register |
| TCNTCLRR | CORE 100us Counter Clear Register |
| Sn\_RX\_SIZE | SOCKET n Receive Buffer Size Register =  RMSR(RX Memory Size Register) |
| Sn\_TX\_SIZE | SOCKET n Transmit Buffer Size Register =  TMSR(TX Memory Size Register) |
| Sn\_RX\_WR[1:0] | SOCKET n RX Write Pointer Register |
| Sn\_IMR | SOCKET n Interrupt Mask Register |
| Sn\_FRAGR[1:0] | SOCKET n Fragment Offset in IP Header |
| Sn\_MR2 | SOCKET n Mode Register 2 |
| Sn\_KPALVTR | SOCKET n Keep-alive Timer Register |
| Sn\_TSR | SOCKET n Timer Status Register |
| Sn\_RTR[1:0] | SOCKET n Retry Time value Register |
| Sn\_RCR | SOCKET n Retry Count value Register |

* 1. Removal

|  |  |
| --- | --- |
| PATR[1:0] | PPPoE의 software의 구현으로 삭제됨. |

* 1. TCP

1. Package

|  |  |  |
| --- | --- | --- |
|  | W5100S | W5100 |
| Package | 48 LQFP | 80 LQFP |